



# ***STIC Search Report***

## ***Biotech-Chem Library***

**STIC Database Tracking Number: 130810**

**TO: Ralph J Gitomer  
Location: 3d65 / 3e71  
Art Unit: 1651  
Tuesday, August 31, 2004**

**Case Serial Number: 09/966505**

**From: Noble Jarrell  
Location: Biotech-Chem Library  
Rem 1B71  
Phone: 272-2556**

**Noble.jarrell@uspto.gov**

### **Search Notes**

=> b reg

FILE 'REGISTRY' ENTERED AT 08:30:33 ON 31 AUG 2004  
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STRUCTURE FILE UPDATES: 29 AUG 2004 HIGHEST RN 735258-95-4  
DICTIONARY FILE UPDATES: 29 AUG 2004 HIGHEST RN 735258-95-4

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more  
information enter HELP PROP at an arrow prompt in the file or refer  
to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d ide l1

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 7782-44-7 REGISTRY  
CN **Oxygen (8CI, 9CI)** (CA INDEX NAME)  
OTHER NAMES:  
CN Dioxygen  
CN Molecular oxygen  
CN Oxygen molecule  
FS 3D CONCORD  
DR 1338-93-8, 14797-70-7, 80217-98-7, 80937-33-3  
MF O2  
CI COM  
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO,  
CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,  
CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM\*,  
DIOGENES, DIPPR\*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT,  
ENCOMPPAT2, GMELIN\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*,  
MSDS-OHS, NIOSHTIC, PDLCOM\*, PIRA, PROMT, PS, RTECS\*, SPECINFO,  
TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VTB  
(\*File contains numerically searchable property data)  
Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)  
DT.CA Caplus document type: Book; Conference; Dissertation; Journal; Patent;  
Preprint; Report  
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);  
CMBI (Combinatorial study); FORM (Formation, nonpreparative); MSC  
(Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process);  
PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role  
in record)  
RLD.P Roles for non-specific derivatives from patents: ANST (Analytical  
study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC  
(Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process);  
PRP (Properties); RACT (Reactant or reagent); USES (Uses)  
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological  
study); CMBI (Combinatorial study); FORM (Formation, nonpreparative);

MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); CMBI (Combinatorial study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

O=O

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

348067 REFERENCES IN FILE CA (1907 TO DATE)  
27702 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
348446 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> d his

(FILE 'HOME' ENTERED AT 07:19:22 ON 31 AUG 2004)

FILE 'REGISTRY' ENTERED AT 07:19:46 ON 31 AUG 2004  
ACT GIT966REG/A

L1 1 SEA FILE=REGISTRY ABB=ON PLU=ON OXYGEN/CN

FILE 'HCAPLUS' ENTERED AT 07:20:26 ON 31 AUG 2004

L2 ( 495509)SEA FILE=HCAPLUS ABB=ON PLU=ON METABOLISM+NT/CT  
L3 ( 597952)SEA FILE=HCAPLUS ABB=ON PLU=ON ANALYSIS/CW  
L4 ( 51476)SEA FILE=HCAPLUS ABB=ON PLU=ON IMMUNOASSAY+OLD,NT/CT  
L5 ( 17748)SEA FILE=HCAPLUS ABB=ON PLU=ON MICROARRAY TECHNOLOGY+NT/CT  
L6 ( 8723)SEA FILE=HCAPLUS ABB=ON PLU=ON ANALYTICAL APPARATUS+NT/CT  
L7 ( 6170)SEA FILE=HCAPLUS ABB=ON PLU=ON BIOTECHNOLOGY/CT  
L8 ( 8836)SEA FILE=HCAPLUS ABB=ON PLU=ON TECHNOLOGY+OLD,NT/CT  
L9 ( 6662)SEA FILE=HCAPLUS ABB=ON PLU=ON L8 (L) BIO?/OBI  
L10 ( 1104)SEA FILE=HCAPLUS ABB=ON PLU=ON L7 (L) BIOCHIP?/OBI  
L11 ( 153)SEA FILE=HCAPLUS ABB=ON PLU=ON L6 (L) MICROARR?/OBI  
L12 ( 3062)SEA FILE=HCAPLUS ABB=ON PLU=ON L3 (L) BIOCHEM?/OBI  
L13 ( 1926)SEA FILE=HCAPLUS ABB=ON PLU=ON MICROTITER PLATES/CT  
L14 ( 7416)SEA FILE=HCAPLUS ABB=ON PLU=ON LABORATORY WARE+NT/CT  
L15 ( 2127)SEA FILE=HCAPLUS ABB=ON PLU=ON L14 (L) (MICROTIT?/OBI OR MICR  
L16 ( 30133)SEA FILE=HCAPLUS ABB=ON PLU=ON L3 (L) APP?/OBI  
L17 ( 522607)SEA FILE=HCAPLUS ABB=ON PLU=ON DIOXYGEN/OBI OR OXYGEN/OBI OR  
L18 ( 222683)SEA FILE=HCAPLUS ABB=ON PLU=ON LUMINESCENCE+OLD,NT/CT  
L19 ( 35817)SEA FILE=HCAPLUS ABB=ON PLU=ON LUMINESCENCE SPECTROSCOPY+OLD,  
L20 ( 9)SEA FILE=HCAPLUS ABB=ON PLU=ON ("KEITH S"/AU OR "KEITH S C"/A  
L21 348758 L1  
L22 876288 (L21 OR L17 OR L2) AND (PY<=2000 OR AY<=2000 OR PRY<=2000 OR PD  
L23 11208 L22 AND L18-19  
L24 153 L23 AND (L4 OR L5 OR L6 OR L9 OR L10 OR L11 OR L12 OR L13 OR L  
L25 0 L20 AND L24  
L26 112 L24 AND P/DT  
L27 22 L26 AND US/PC.B  
L28 1241 (BECTON OR BECTON AND DICKINS?)/CS,PA  
L29 3 L23 AND L28

Searched by Noble Jarrell

L30           SEL AN DN L27 1 2 3 7 8 10 13 18 22  
          9 E1-27 AND L27  
          SEL AN 4-7  
L31           4 E28-35 AND L30  
L32           90 L26 NOT L27  
L33           16 L32 AND (OXYGEN (1A) CONSUMPT? OR RESPIR?)  
L34           26476 (L1 OR L17) (L) ANST+NT/RL  
L35           4606 (L2 OR L34) AND L18-19  
L36           200 L35 AND (L4 OR L5 OR L6 OR L9 OR L10 OR L11 OR L12 OR L13 OR L  
L37           129 L36 AND (PY<=2000 OR AY<=2000 OR PRY<=2000 OR PD<20000818 OR AD  
L38           97 L37 AND P/DT  
L39           66 L38 AND US/PC  
L40           21 L39 AND US/PC.B  
L41           0 L40 NOT L27

=> b hcap

FILE 'HCAPLUS' ENTERED AT 08:31:02 ON 31 AUG 2004  
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FILE COVERS 1907 - 31 Aug 2004 VOL 141 ISS 10  
FILE LAST UPDATED: 30 Aug 2004 (20040830/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

'OBI' IS DEFAULT SEARCH FIELD FOR 'HCAPLUS' FILE

=> d all 129 tot

L29 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:403838 HCAPLUS  
DN 136:382505  
ED Entered STN: 30 May 2002  
TI Device for monitoring cells  
IN Pitner, J. Bruce; Hemperly, John Jacob; Guarino, Richard D.; Wodnicka, Magdalena; Stitt, David T.; Burrell, Gregory J.; Foley, Timothy G., Jr.; Beaty, Patrick Shawn  
PA Becton, Dickinson and Company, USA  
SO U.S., 42 pp., Cont.-in-part of U.S. Ser. No. 715,557.  
CODEN: USXXAM  
DT Patent  
LA English  
IC ICM C12Q001-18  
NCL 435032000  
CC 9-1 (Biochemical Methods)  
Section cross-reference(s): 1, 4  
FAN.CNT 4

Searched by Noble Jarrell

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6395506	B1	20020528	US 1999-342720	19990629 <--
	EP 509791	A1	19921021	EP 1992-303391	19920415 <--
	EP 509791	B1	19960703		
	R: DE, FR, GB, IT				
	CA 2066329	AA	19921019	CA 1992-2066329	19920416 <--
	CA 2066329	C	20000620		
	JP 05137596	A2	19930601	JP 1992-98368	19920418 <--
	JP 07073510	B4	19950809		
	US 2004106209	A1	20040603	US 2001-966505	20010928 <--
	US 2002192636	A1	20021219	US 2002-109475	20020328 <--
	US 2002155424	A1	20021024	US 2002-116777	20020404 <--
PRAI	US 1991-687359	B1	19910418	<--	
	US 1993-25899	A2	19930303	<--	
	US 1996-715557	A2	19960918	<--	
	US 1999-342720	A2	19990629	<--	
	US 2000-642504	A2	20000818	<--	
	US 2001-966505	A2	20010928		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
US 6395506	ICM	C12Q001-18	
	NCL	435032000	
US 6395506	ECLA	C12Q001/04; C12Q001/18	<--
US 2004106209	ECLA	C12Q001/04; C12Q001/18	<--
US 2002192636	ECLA	C12Q001/04; C12Q001/18	<--
US 2002155424	ECLA	C12Q001/04; C12Q001/18	<--

AB The present invention relates to methods for detection and evaluation of metabolic activity of eukaryotic and/or prokaryotic cells based upon their ability to consume dissolved oxygen. The methods utilize a luminescence detection system which makes use of the sensitivity of the luminescent emission of certain compds. to the presence of oxygen, which quenches (diminishes) the compound's luminescent emission in a concentration dependent manner. Respiring eukaryotic and/or prokaryotic cells will affect the oxygen concentration of a liquid medium in which they are immersed. Thus, this invention provides a convenient system to gather information on the presence, identification, quantification and cytotoxic activity of eukaryotic and/or prokaryotic cells by determining their effect on the oxygen concentration of the media in which they are present.

ST device monitoring cell

IT Plates

(Microtitration; device for monitoring cells)

IT Analytical apparatus

Antibiotics

Biological materials

Blood

Blood serum

Cell

Cell proliferation

Chemicals

Coating materials

Composition

Concentration (condition)

Culture media

Cytotoxicity

Drugs

Escherichia coli

Eubacteria

Eukaryota

Extracellular matrix  
Fluorescence quenching  
Impermeability  
Insecta  
Light  
Liquids  
    **Luminescence**  
Luminescence quenching  
    **Luminescence spectroscopy**  
Luminescent substances  
Mathematical methods  
    **Metabolism**  
Microorganism  
Molecules  
Particles  
Permeability  
Prokaryote  
Pseudomonas aeruginosa  
Radiation  
Reducing agents  
    **Respiration, animal**  
    **Respiration, microbial**  
Sensors  
Solutes  
Wavelength  
Wetting  
Yeast

- (device for monitoring cells)
- IT Toxins  
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)  
(device for monitoring cells)
- IT Reagents  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(device for monitoring cells)
- IT Plastics, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(device for monitoring cells)
- IT Rubber, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(device for monitoring cells)
- IT Silicone rubber, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(device for monitoring cells)
- IT Growth factors, animal  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(device for monitoring cells)
- IT Collagens, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(device for monitoring cells)
- IT Entactin  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(device for monitoring cells)
- IT Laminins  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(device for monitoring cells)
- IT Proteoglycans, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

(Uses)  
(heparitin sulfate-containing; device for monitoring cells)  
IT Optical detectors  
(luminescence; device for monitoring cells)  
IT Animal cell  
(mammal; device for monitoring cells)  
IT Amino acids, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(nonessential; device for monitoring cells)  
IT Collagens, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(type IV; device for monitoring cells)  
IT 1499-10-1, 9,10-Diphenylanthracene 15158-62-0D, Tris-2,2'-  
bipyridylruthenium (II), salts 36309-88-3, Tris-4,7-diphenyl-1,10-  
phenanthroline ruthenium (II) chloride 50525-27-4, Tris-2,2'-  
bipyridylruthenium (II) chloride hexahydrate. 63373-04-6D,  
Tris-4,7-diphenyl-1,10-phenanthroline ruthenium (II), salts  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(device for monitoring cells)  
IT 7631-86-9, Silica, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(device for monitoring cells)  
IT 59-05-2, Methotrexate 151-21-3, Sodium dodecyl sulfate, biological  
studies 865-21-4, Vinblastine 7757-83-7, Sodium Sulfite  
7782-44-7, Oxygen, biological studies 26628-22-8,  
Sodium Azide 35607-66-0, Cefoxitin 55268-75-2, Cefuroxime  
85721-33-1, Ciprofloxacin  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(device for monitoring cells)  
IT 57-92-1, Streptomycin, biological studies 113-24-6, Sodium pyruvate  
1397-89-3, Fungizone 1406-05-9, Penicillin 119978-18-6, Matrigel  
141907-41-7, Matrix metalloproteinase  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(device for monitoring cells)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Bacon, J; Anal Chem 1987, V59(23), P2780 HCAPLUS
- (2) Berndt; US 6080574 A 2000
- (3) Collins; US 6107083 A 2000
- (4) Gentle; US 5998517 A 1999 HCAPLUS
- (5) Goswami, K; Fiber Optic Chemical Sensor for the Measurement of Partial  
Pressure of Oxygen 1988, V990, P111
- (6) Stitt; US 5567598 A 1996
- (7) Walt; US 5244636 A 1993 HCAPLUS
- (8) Wertz; US 4448534 A 1984
- (9) Wolfbeis, O; Mikrochimica Acta 1986, V3(5-6), P359 HCAPLUS

L29 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:779238 HCAPLUS

DN 132:20746

ED Entered STN: 09 Dec 1999

TI Sensor composition for the detection of microorganisms in a sample via  
respiratory oxygen

IN Gentle, Thomas M., Jr.; Yeh, Ming-Hsiung

PA Becton, Dickinson and Company, USA

SO U.S., 6 pp.

CODEN: USXXAM

DT Patent  
 LA English  
 IC ICM C08K005-34  
 NCL 524092000  
 CC 9-1 (Biochemical Methods)  
 Section cross-reference(s): 10

## FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5998517	A	19991207	US 1998-92689	19980605 <--
	EP 962535	A1	19991208	EP 1999-109191	19990510 <--
	EP 962535	B1	20030827		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	CA 2272043	AA	19991205	CA 1999-2272043	19990513 <--
	JP 2000004898	A2	20000111	JP 1999-160156	19990607 <--
PRAI	US 1998-92689	A	19980605	<--	

## CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	US 5998517	ICM	C08K005-34
		NCL	524092000
	US 5998517	ECLA	C09B057/10 <--
AB	The present invention relates to a composition for the detection of the growth of respiring microorganisms in a sample, which comprises: (a) tris(4,7-diphenyl-10-phenanthroline)ruthenium dichloride pentahydrate(sic); (b) a hydroxyl functional group; (c) an organosilicon polymer; (d) an organohydrogensilicon compound; and (e) a catalyst; and a method for preparing said composition		
ST	<b>oxygen</b> sensor homogeneous microorganism clin analysis		
IT	Microbiology (clin.; sensor composition for detection of microorganisms in a sample via respiratory <b>oxygen</b> )		
IT	Gas sensors ( <b>oxygen</b> ; sensor composition for detection of microorganisms in a sample via respiratory <b>oxygen</b> )		
IT	Catalysts Crosslinking agents <b>Fluorometry</b> Microorganism Polymerization (sensor composition for detection of microorganisms in a sample via respiratory <b>oxygen</b> )		
IT	Polysiloxanes, uses RL: DEV (Device component use); USES (Uses) (sensor composition for detection of microorganisms in a sample via respiratory <b>oxygen</b> )		
IT	7440-21-3D, Silicon, derivative, uses RL: DEV (Device component use); USES (Uses) (SF201 and SF205; sensor composition for detection of microorganisms in a sample via respiratory <b>oxygen</b> )		
IT	7782-44-7, <b>Oxygen</b> , analysis RL: ANT (Analyte); BOC (Biological occurrence); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence) (sensor composition for detection of microorganisms in a sample via respiratory <b>oxygen</b> )		
IT	21329-70-4 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (sensor composition for detection of microorganisms in a sample via		



respiratory **oxygen**)

IT 64-17-5, Ethanol, analysis 112-43-6, 10-Undecenyl alcohol 765-12-8, 3,6,9,12-Tetraoxatetradeca-1,13-diene 1343-98-2D, Silicic acid, organosilyl derivs.  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(sensor composition for detection of microorganisms in a sample via respiratory **oxygen**)

IT 13463-67-7, Titanium dioxide, analysis 70331-94-1, Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, (1,2-dioxo-1,2-ethanediyl)bis(imino-2,1-ethanediyl) ester  
RL: ARU (Analytical role, unclassified); MOA (Modifier or additive use); ANST (Analytical study); USES (Uses)  
(sensor composition for detection of microorganisms in a sample via respiratory **oxygen**)

IT 7440-06-4, Platinum, uses  
RL: CAT (Catalyst use); USES (Uses)  
(sensor composition for detection of microorganisms in a sample via respiratory **oxygen**)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE  
(1) Baardman; US 5670611 1997 HCAPLUS  
(2) Johnson; US 4022751 1977 HCAPLUS  
(3) Williams; US 4396734 1983 HCAPLUS

L29 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1998:197636 HCAPLUS  
DN 128:215269  
ED Entered STN: 06 Apr 1998  
TI Detecting the presence of respiring microorganisms in a fluid using a fluorescing sensor which exhibits a degree of quenching when exposed to **oxygen**  
IN Stitt, David T.; Burrell, Gregory J.; Beaty, Shawn; Hu, Joanna Kwok Yu; Monthony, James F.; Sapitowicz, Robert; Foley, Timothy G.  
PA Becton, Dickinson and Company, USA; Stitt, David T.; Burrell, Gregory J.; Beaty, Shawn; Hu, Joanna Kwok Yu; Monthony, James F.; Sapitowicz, Robert; Foley, Timothy G.  
SO PCT Int. Appl., 42 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
IC ICM C12Q001-04  
ICS C12Q001-18  
CC 9-12 (Biochemical Methods)  
Section cross-reference(s): 1, 10  
FAN.CNT 4

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9812348	A1	19980326	WO 1997-US16496	19970918 <--
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9744839	A1	19980414	AU 1997-44839	19970918 <--
EP 1021557	A1	20000726	EP 1997-943349	19970918 <--
R: DE, FR, GB, IT				
JP 2002501363	T2	20020115	JP 1998-514841	19970918 <--

PRAI US 1996-715557 A 19960918 <--  
 WO 1997-US16496 W 19970918 <--

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9812348	ICM	C12Q001-04
	ICS	C12Q001-18
WO 9812348	ECLA	C12Q001/04; C12Q001/18

AB The present invention relates to a method for detecting the presence of respiring microorganisms in a fluid. It is an object of this invention to provide an improved means to detect the presence of, and to evaluate the metabolic activity of, microorganisms present in a liquid or semi-solid media. It is further an object of this invention to provide a microbial monitoring device or system which can be simply read and visually interpreted, and which permits results to be obtained in a shorter time period than previously attainable, nominally 6 h or less. These processes use a fluorescence detection system wherein the fluorescing sensor compound is one which exhibits a quantifiable degree of quenching when exposed to oxygen, including tris-4,7-diphenyl-1,10-phenanthroline ruthenium (II) chloride, tris-2,2'-bipyridyl ruthenium (II) chloride hexahydrate and 9,10-diphenyl anthracene.

ST microorganism respiration fluorescence sensor **oxygen** quenching

IT Antibiotics

Antimicrobial agents

Escherichia coli

**Fluorescence**

Fluorescence quenching

Fluorescent indicators

**Fluorometry**

Microorganism

Mycobacterium fortuitum

Pseudomonas aeruginosa

Reducing agents

**Respiration, microbial**

(detecting the presence of respiring microorganisms in a fluid using a fluorescing sensor which exhibits a degree of quenching when exposed to **oxygen**)

IT Silicone rubber, analysis

RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); NUU (Other use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(detecting the presence of respiring microorganisms in a fluid using a fluorescing sensor which exhibits a degree of quenching when exposed to **oxygen**)

IT Plastics, analysis

Rubber, analysis

RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); NUU (Other use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(matrix; detecting the presence of respiring microorganisms in a fluid using a fluorescing sensor which exhibits a degree of quenching when exposed to **oxygen**)

IT 108-95-2, Phenol, biological studies 7758-98-7, Copper sulfate, biological studies

RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)

(detecting the presence of respiring microorganisms in a fluid using a fluorescing sensor which exhibits a degree of quenching when exposed to **oxygen**)

- IT 1499-10-1, 9,10-Diphenyl anthracene 15158-62-0 36309-88-3  
50525-27-4, Tris-2,2'-bipyridyl ruthenium (II) chloride hexahydrate  
63373-04-6  
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(detecting the presence of respiring microorganisms in a fluid using a fluorescing sensor which exhibits a degree of quenching when exposed to oxygen)
- IT 7631-86-9, Silica, analysis  
RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); NUU (Other use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(detecting the presence of respiring microorganisms in a fluid using a fluorescing sensor which exhibits a degree of quenching when exposed to oxygen)
- IT 35607-66-0, Cefoxitin 55268-75-2, Cefuroxime 85721-33-1, Ciprofloxacin  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(detecting the presence of respiring microorganisms in a fluid using a fluorescing sensor which exhibits a degree of quenching when exposed to oxygen)
- IT 7782-44-7, Oxygen, biological studies  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
(detecting the presence of respiring microorganisms in a fluid using a fluorescing sensor which exhibits a degree of quenching when exposed to oxygen)
- IT 7757-83-7, Sodium sulfite  
RL: BUU (Biological use, unclassified); NUU (Other use, unclassified); BIOL (Biological study); USES (Uses)  
(detecting the presence of respiring microorganisms in a fluid using a fluorescing sensor which exhibits a degree of quenching when exposed to oxygen)
- IT 7782-44-7, Oxygen, uses  
RL: DEV (Device component use); USES (Uses)  
(sensors; detecting the presence of respiring microorganisms in a fluid using a fluorescing sensor which exhibits a degree of quenching when exposed to oxygen)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Akzo N V; EP 0333253 A 1989
- (2) Avl Photonics Corporation; EP 0448923 A 1991
- (3) Becton Dickinson And Company; EP 0509791 A 1992
- (4) The University Of Virginia Patents Foundation; GB 2132348 A 1984 HCAPLUS

=> d all 131 tot

L31 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:236459 HCAPLUS  
DN 138:234421  
ED Entered STN: 27 Mar 2003  
TI Method and apparatus for producing and measuring light and for determining the amounts of analytes in microplate wells  
IN Duebendorfer, Juerg; Jones, Donald; Neumann, Kenneth; Wang, Chang Jin  
PA Packard Instrument Company, USA  
SO U.S., 11 pp.  
CODEN: USXXAM  
DT Patent

LA English  
 IC ICM G01J003-30  
 NCL 356318000; 356317000  
 CC 9-1 (Biochemical Methods)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6538735	B1	20030325	US 2000-512707	20000225 <--
PRAI	US 2000-512707		20000225	<--	

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6538735	ICM	G01J003-30
	NCL	356318000; 356317000

AB An apparatus for measuring light in samples using a high intensity light source, is presented. The system uses bifurcated fiber bundles to transmit light at the excitation and emission wavelength bands. It also uses a band-pass filter for eliminating extraneous light, including that which corresponds to the excitation wavelength range, while permitting the emitted light to pass to a detector for quantitation. The system employs a shutter to shield the detector while the laser light source is activated, and a controller to intermittently activate the laser light and close the shutter. The apparatus preferably includes lenses for better illumination and read out conditions. The apparatus is employed in Luminescence Oxygen Channeling Immunoassays. The method has high sensitivity, accuracy and precision, and the apparatus is highly compact. Accordingly, the analyzer can perform assays in nanoliter to microliter sample vols. in standard microplates having at least 96, 384 or 1536 wells.

ST analyte detn microplate well light measurement system

IT **Fluorescence**  
 Lab-on-a-chip  
 Luminescence, bioluminescence  
 Luminescence, chemiluminescence  
 Microarray technology  
 Microtiter plates  
 Optical instruments  
 Photodiodes  
 (analyte determination in **microplate** well by optical system)

IT Optical fibers  
 (bifurcated; analyte determination in microplate well by optical system)

IT Light sources  
 (high intensity; analyte determination in microplate well by optical system)

IT Samples  
 (liquid; analyte determination in microplate well by optical system)

IT **Immunoassay**  
 (luminescence **oxygen** channeling; analyte determination in microplate well by optical system)

IT Tumor necrosis factors  
 RL: ANT (Analyte); ANST (Analytical study)  
 (receptor binding assays; analyte determination in microplate well by optical system)

IT Flash lamps  
 (xenon; analyte determination in microplate well by optical system)

IT **7782-44-7, Oxygen**, analysis 21820-51-9,  
 Phosphotyrosine 80449-02-1  
 RL: ANT (Analyte); ANST (Analytical study)  
 (analyte determination in microplate well by optical system)

IT 7440-21-3, Silicon, uses  
 RL: DEV (Device component use); USES (Uses)

(photodiode; analyte determination in microplate well by optical system)

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; EP 0421156 A2 1991 HCAPLUS
- (2) Anon; WO 9313423 1993 HCAPLUS
- (3) Anon; WO 9711354 1997 HCAPLUS
- (4) Anon; WO 9852047 1998 HCAPLUS
- (5) Banks; US 5919707 A 1999 HCAPLUS
- (6) Barlow; US 5682244 A 1997
- (7) Clarke; US 5239180 A 1993 HCAPLUS
- (8) Dandliker; US 34782 E 1994 HCAPLUS
- (9) Gupta; US 5343045 A 1994
- (10) Harootunian; US 5589351 A 1996 HCAPLUS
- (11) Landa; US 4626684 A 1986
- (12) Longacre; US 5926270 A 1999 HCAPLUS
- (13) Modlin; US 6097025 A 2000
- (14) Nielsen; US 5557415 A 1996 HCAPLUS
- (15) Sandison; US 5920399 A 1999
- (16) Zarling; US 5736410 A 1998 HCAPLUS

L31 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:964997 HCAPLUS

DN 138:35680

ED Entered STN: 20 Dec 2002

TI Methods and apparatus for the discovery of growth promoting environments

IN Guarino, Richard David; Hemperly, John Jacob; Spargo, Catherine A.;  
Liebmann-Vinson, Andrea; Heidaran, Mohammad A.

PA USA

SO U.S. Pat. Appl. Publ., 18 pp., Cont.-in-part of U. S. Ser. No. 966,505.

CODEN: USXXCO

DT Patent

LA English

IC ICM C12Q001-00

ICS G01N033-53; G01N033-567; C12Q001-18

NCL 435004000; 435007200; 435040500

CC 9-1 (Biochemical Methods)

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002192636	A1	20021219	US 2002-109475	20020328 <--
	EP 509791	A1	19921021	EP 1992-303391	19920415 <--
	EP 509791	B1	19960703		
	R: DE, FR, GB, IT				
	CA 2066329	AA	19921019	CA 1992-2066329	19920416 <--
	CA 2066329	C	20000620		
	JP 05137596	A2	19930601	JP 1992-98368	19920418 <--
	JP 07073510	B4	19950809		
	US 6395506	B1	20020528	US 1999-342720	19990629 <--
	US 2004106209	A1	20040603	US 2001-966505	20010928 <--
PRAI	US 1991-687359	B1	19910418	<--	
	US 1993-25899	A2	19930303	<--	
	US 1996-715557	A2	19960918	<--	
	US 1999-342720	A2	19990629	<--	
	US 2000-642504	A2	20000818	<--	
	US 2001-966505	A2	20010928		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2002192636	ICM	C12Q001-00
	ICS	G01N033-53; G01N033-567; C12Q001-18

Searched by Noble Jarrell

NCL 435004000; 435007200; 435040500  
 US 2002192636 ECLA C12Q001/04; C12Q001/18 <--  
 US 6395506 ECLA C12Q001/04; C12Q001/18 <--  
 US 2004106209 ECLA C12Q001/04; C12Q001/18 <--  
 AB The present invention relates to cell culture. In particular, this invention is directed to methods and apparatuses used to observe or quantitate cell proliferation in the presence of potential growth promoting mols. in a two or three dimensional architecture. Further, the invention provides methods, apparatuses and kits which can be used in assays for the effects of different materials, bioactive agents, or combinations thereof on cells in two or three dimensional culture. In particular, the invention provides a method for determining the presence or absence of respiring cells which includes depositing a three-dimensional biomimetic scaffold and cells onto a sensor composition, the sensor composition including a luminescent compound that exhibits a change in luminescent property when irradiated with light containing wavelengths which cause said compound to luminesce upon exposure to oxygen and then irradiating the sensor composition with light to cause luminescence, followed by determining the resultant luminescent light intensity emitted and determining whether said resultant luminescent light intensity emitted is indicative of the presence or absence of respiring cells. The system also can be used in cytotoxicity assays for the effects of drugs, toxins, or chems. on eukaryotic or prokaryotic cells.  
 ST app respiration cell culture luminescence proliferation **oxygen** biosensor  
 IT Animal cell line  
 (3T3; methods and apparatus for discovery of growth promoting environments)  
 IT Animal cell line  
 (MC3T3-E1; methods and apparatus for discovery of growth promoting environments)  
 IT Animal cell line  
 (WI-38; methods and apparatus for discovery of growth promoting environments)  
 IT **Respiration, animal**  
 (cells; methods and apparatus for discovery of growth promoting environments)  
 IT **Analytical apparatus**  
 Animal tissue culture  
 Biosensors  
 Cell proliferation  
 Extracellular matrix  
 Films  
 Growth, animal  
 Human  
 Immobilization, molecular or cellular  
 Luminescence  
 Luminescence spectroscopy  
 Luminescent substances  
 Microtiter plates  
 Respiration, microbial  
 Test kits  
 (methods and apparatus for discovery of growth promoting environments)  
 IT Plastics, **analysis**  
 Silicone rubber, **analysis**  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (methods and **apparatus** for discovery of growth promoting environments)  
 IT Growth factors, animal  
 RL: BSU (Biological study, unclassified); BIOL (Biological study)

(methods and apparatus for discovery of growth promoting environments)

IT Rubber, biological studies  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
(methods and apparatus for discovery of growth promoting environments)

IT Collagens, biological studies  
Entactin  
Laminins  
Polyoxyalkylenes, biological studies  
Proteoglycans, biological studies  
Vitronectin  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(methods and apparatus for discovery of growth promoting environments)

IT Polymers, uses  
RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)  
(methods and apparatus for discovery of growth promoting environments)

IT Sarcoma  
(mouse, exts. from; methods and apparatus for discovery of growth promoting environments)

IT Gas sensors  
(oxygen; methods and apparatus for discovery of growth promoting environments)

IT Collagens, biological studies  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
(type IV; methods and apparatus for discovery of growth promoting environments)

IT 7782-44-7, Oxygen, analysis  
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)  
(methods and apparatus for discovery of growth promoting environments)

IT 1499-10-1, 9,10-Diphenylanthracene 15158-62-0, Tris-2,2'-bipyridylruthenium (II) 36309-88-3, Tris-4,7-diphenyl-1,10-phenanthroline ruthenium (II) chloride 50525-27-4, Tris(2,2'-bipyridyl)ruthenium (II) chloride hexahydrate 63373-04-6, Tris-4,7-diphenyl-1,10-phenanthroline ruthenium (II)  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(methods and apparatus for discovery of growth promoting environments)

IT 7631-86-9, Silica, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(methods and apparatus for discovery of growth promoting environments)

IT 9050-30-0, Heparan sulfate  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
(methods and apparatus for discovery of growth promoting environments)

IT 25322-69-4, Polypropylene oxide 26009-03-0, Polyglycolic acid 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] 141907-41-7, Matrix metalloproteinase  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(methods and apparatus for discovery of growth promoting environments)

L31 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:403838 HCAPLUS  
DN 136:382505  
ED Entered STN: 30 May 2002  
TI Device for monitoring cells  
IN Pitner, J. Bruce; Hemperly, John Jacob; Guarino, Richard D.; Wodnicka, Magdalena; Stitt, David T.; Burrell, Gregory J.; Foley, Timothy G., Jr.;

Beaty, Patrick Shawn  
 PA Becton, Dickinson and Company, USA  
 SO U.S., 42 pp., Cont.-in-part of U.S. Ser. No. 715,557.  
 CODEN: USXXAM  
 DT **Patent**  
 LA English  
 IC ICM C12Q001-18  
 NCL 435032000  
 CC 9-1 (Biochemical Methods)  
 Section cross-reference(s): 1, 4  
 FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6395506	B1	20020528	US 1999-342720	19990629 <--
	EP 509791	A1	19921021	EP 1992-303391	19920415 <--
	EP 509791	B1	19960703		
	R: DE, FR, GB, IT				
	CA 2066329	AA	19921019	CA 1992-2066329	19920416 <--
	CA 2066329	C	20000620		
	JP 05137596	A2	19930601	JP 1992-98368	19920418 <--
	JP 07073510	B4	19950809		
	US 2004106209	A1	20040603	US 2001-966505	20010928 <--
	US 2002192636	A1	20021219	US 2002-109475	20020328 <--
	US 2002155424	A1	20021024	US 2002-116777	20020404 <--
PRAI	US 1991-687359	B1	19910418	<--	
	US 1993-25899	A2	19930303	<--	
	US 1996-715557	A2	19960918	<--	
	US 1999-342720	A2	19990629	<--	
	US 2000-642504	A2	20000818	<--	
	US 2001-966505	A2	20010928		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6395506	ICM	C12Q001-18
	NCL	435032000
US 6395506	ECLA	C12Q001/04; C12Q001/18 <--
US 2004106209	ECLA	C12Q001/04; C12Q001/18 <--
US 2002192636	ECLA	C12Q001/04; C12Q001/18 <--
US 2002155424	ECLA	C12Q001/04; C12Q001/18 <--

AB The present invention relates to methods for detection and evaluation of metabolic activity of eukaryotic and/or prokaryotic cells based upon their ability to consume dissolved oxygen. The methods utilize a luminescence detection system which makes use of the sensitivity of the luminescent emission of certain compds. to the presence of oxygen, which quenches (diminishes) the compound's luminescent emission in a concentration dependent manner. Respiring eukaryotic and/or prokaryotic cells will affect the oxygen concentration of a liquid medium in which they are immersed. Thus, this invention provides a convenient system to gather information on the presence, identification, quantification and cytotoxic activity of eukaryotic and/or prokaryotic cells by determining their effect on the oxygen concentration of the media in which they are present.

ST device monitoring cell

IT Plates

(Microtitration; device for monitoring cells)

IT **Analytical apparatus**

Antibiotics

Biological materials

Blood

Blood serum

Cell



Cell proliferation  
 Chemicals  
 Coating materials  
 Composition  
 Concentration (condition)  
 Culture media  
 Cytotoxicity  
 Drugs  
 Escherichia coli  
 Eubacteria  
 Eukaryota  
 Extracellular matrix  
 Fluorescence quenching  
 Impermeability  
 Insecta  
 Light  
 Liquids

**Luminescence**

Luminescence quenching

**Luminescence spectroscopy**

Luminescent substances

Mathematical methods

**Metabolism**

Microorganism

Molecules

Particles

Permeability

Prokaryote

Pseudomonas aeruginosa

Radiation

Reducing agents

**Respiration, animal**

**Respiration, microbial**

Sensors

Solutes

Wavelength

Wetting

Yeast

(device for monitoring cells)

IT

Toxins

RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)

(device for monitoring cells)

IT

Reagents

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(device for monitoring cells)

IT

Plastics, analysis

RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(device for monitoring cells)

IT

Rubber, analysis

RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(device for monitoring cells)

IT

Silicone rubber, analysis

RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(device for monitoring cells)

IT

Growth factors, animal

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(device for monitoring cells)

IT

Collagens, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

(Uses)

(device for monitoring cells)

IT Entactin  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(device for monitoring cells)

IT Laminins  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(device for monitoring cells)

IT Proteoglycans, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(heparitin sulfate-containing; device for monitoring cells)

IT Optical detectors  
(luminescence; device for monitoring cells)

IT Animal cell  
(mammal; device for monitoring cells)

IT Amino acids, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(nonessential; device for monitoring cells)

IT Collagens, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(type IV; device for monitoring cells)

IT 1499-10-1, 9,10-Diphenylanthracene 15158-62-0D, Tris-2,2'-bipyridylruthenium (II), salts 36309-88-3, Tris-4,7-diphenyl-1,10-phenanthroline ruthenium (II) chloride 50525-27-4, Tris-2,2'-bipyridylruthenium (II) chloride hexahydrate. 63373-04-6D, Tris-4,7-diphenyl-1,10-phenanthroline ruthenium (II), salts  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(device for monitoring cells)

IT 7631-86-9, Silica, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(device for monitoring cells)

IT 59-05-2, Methotrexate 151-21-3, Sodium dodecyl sulfate, biological studies 865-21-4, Vinblastine 7757-83-7, Sodium Sulfite 7782-44-7, Oxygen, biological studies 26628-22-8, Sodium Azide 35607-66-0, Cefoxitin 55268-75-2, Cefuroxime 85721-33-1, Ciprofloxacin  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(device for monitoring cells)

IT 57-92-1, Streptomycin, biological studies 113-24-6, Sodium pyruvate 1397-89-3, Fungizone 1406-05-9, Penicillin 119978-18-6, Matrigel 141907-41-7, Matrix metalloproteinase  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(device for monitoring cells)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

- (1) Bacon, J; Anal Chem 1987, V59(23), P2780 HCAPLUS
- (2) Berndt; US 6080574 A 2000
- (3) Collins; US 6107083 A 2000
- (4) Gentle; US 5998517 A 1999 HCAPLUS
- (5) Goswami, K; Fiber Optic Chemical Sensor for the Measurement of Partial Pressure of Oxygen 1988, V990, P111
- (6) Stitt; US 5567598 A 1996
- (7) Walt; US 5244636 A 1993 HCAPLUS
- (8) Wertz; US 4448534 A 1984
- (9) Wolfbeis, O; Mikrochimica Acta 1986, V3(5-6), P359 HCAPLUS

L31 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:763459 HCAPLUS  
 DN 135:300643  
 ED Entered STN: 19 Oct 2001  
 TI **Oxygen** monitoring apparatus  
 IN Labuda, Lawrence L.; Blazewicz, Perry R.; Mace, Leslie E.; Apperson, Jerry R.; Cooke, Walter A.  
 PA USA  
 SO U.S. Pat. Appl. Publ., 34 pp., Cont. of U.S. Ser. No. 128,918.  
 CODEN: USXXCO  
 DT **Patent**  
 LA English  
 IC ICM G01N031-00  
 NCL 422084000  
 CC 9-1 (Biochemical Methods)  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2001031224	A1	20011018	US 2001-840931	20010424 <--
	US 6616896	B2	20030909		
	US 6325978	B1	20011204	US 1998-128918	19980804 <--
PRAI	US 1998-128918	A3	19980804	<--	

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20010031224	ICM	G01N031-00
	NCL	422084000
US 2001031224	ECLA	A61B005/083B; A61B005/097; G01N021/64H

AB Apparatus or systems which employ luminescence quenching to produce an oxygen concentration indicative signal. Components of such systems include: (1) an airway adapter, sampling cell, or the like having a sensor which is excited into luminescence with the luminescence decaying in a manner reflecting the concentration of oxygen in gases flowing through the airway adapter or other flow device; (2) a transducer which has a light source for exciting a luminescable composition in the sensor into luminescence and a light sensitive detector for converting energy emitted from the luminescing composition as that composition is quenched into an elec. signal indicative of oxygen concentration in the gases being monitored; and (3) subsystems for maintaining the sensor temperature constant and for processing the signal generated by the light sensitive detector. Sensors for systems of the character just described, methods of fabricating those sensors, and methods for installing the sensors in the flow device.

ST **oxygen** monitoring app

IT Pressure

(Atmospheric; **oxygen** monitoring apparatus)

IT Porphyrins

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (Fluorinated; **oxygen** monitoring apparatus)

IT Organometallic compounds

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (Phosphorescent; **oxygen** monitoring apparatus)

IT Polycarbonates, uses

RL: NUU (Other use, unclassified); USES (Uses)  
 (Track-etched; **oxygen** monitoring apparatus)

IT Pipes and Tubes

(conduits; **oxygen** monitoring apparatus)

IT Apparatus

(flow device; **oxygen** monitoring apparatus)

IT Polymers, **analysis**  
 RL: ANT (Analyte); ANST (Analytical study)  
 (hydrophobic; **oxygen** monitoring apparatus)

IT Composition  
 Concentration (condition)  
 Electromagnetic wave  
 Energy  
 Flow  
 Gas **analysis**  
 Heat sinks  
 Light  
 Light sources  
 Luminescence  
 Luminescence quenching  
 Luminescence spectroscopy  
 Optical detectors  
 Optical filters  
 Pore size  
 Pressure  
 Pumps  
 Radiation sources  
 Respiratory air  
 Respiratory tract  
 Sampling apparatus  
 Sensors  
 Temperature  
 Temperature sensors  
 Thermoregulators  
 Thickness  
 Time  
 Transducers  
 Wavelength  
 (**oxygen** monitoring apparatus)

IT Acrylic polymers, uses  
 Polycarbonates, uses  
 Polyesters, uses  
 Polymers, uses  
 Polysiloxanes, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (**oxygen** monitoring apparatus)

IT Gas sensors  
 (**oxygen**; **oxygen** monitoring apparatus)

IT Control apparatus  
 (pump; **oxygen** monitoring apparatus)

IT Apparatus  
 Heat storage  
 (thermal capacitors; **oxygen** monitoring apparatus)

IT 7782-44-7, **Oxygen**, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (**oxygen** monitoring apparatus)

IT 14187-13-4, Palladiummesotetraphenylporphine 14187-14-5 72076-09-6  
 109781-47-7  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (**oxygen** monitoring apparatus)

IT 9002-86-2, Polyvinyl chloride 9003-07-0, Polypropylene 9003-53-6,  
 Polystyrene 9011-14-7, Polymethyl methacrylate  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (**oxygen** monitoring apparatus)

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